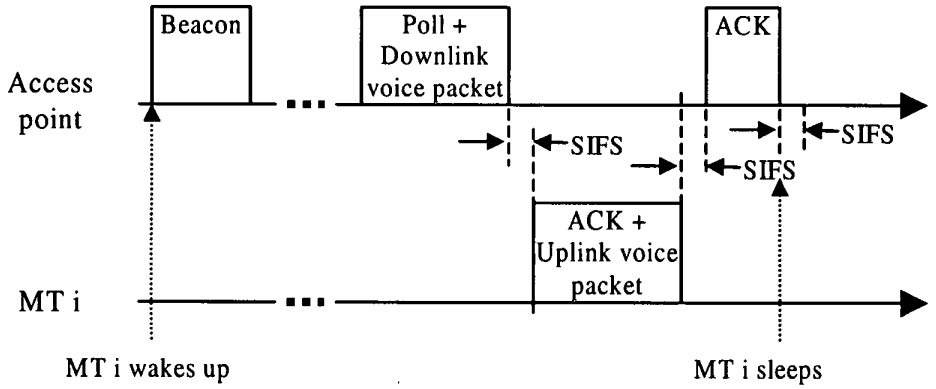

FIG. 1- Prior Art

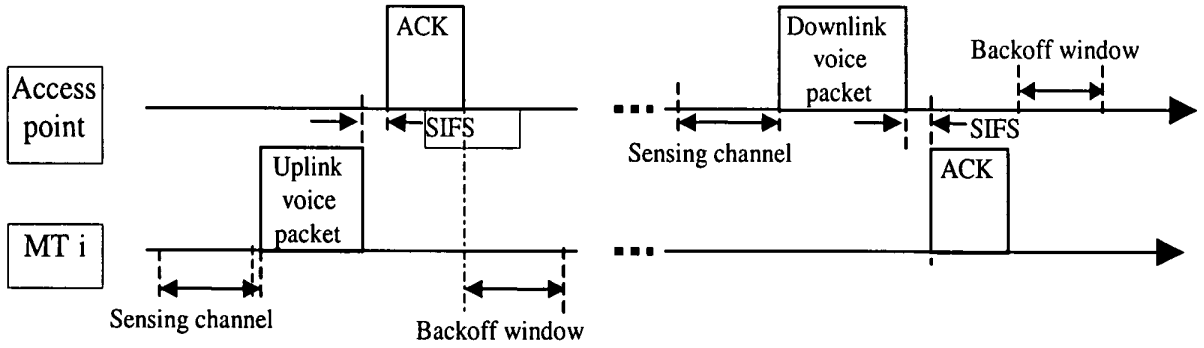

FIG. 2- Prior Art

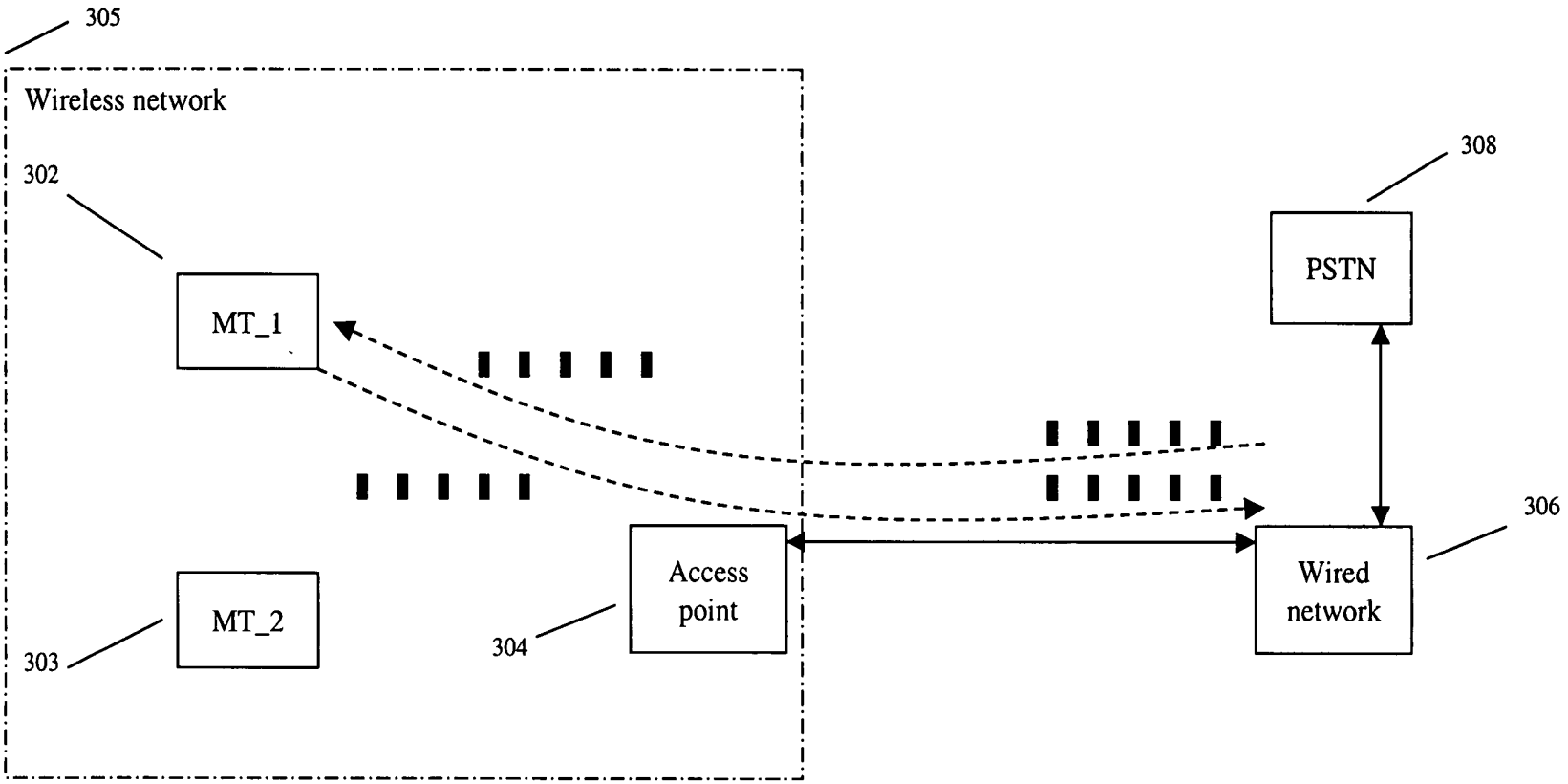
305
Wireless network
302
MT_1
MT_2
303
304
Access point
PSTN
308
306
Wired network

FIG. 3

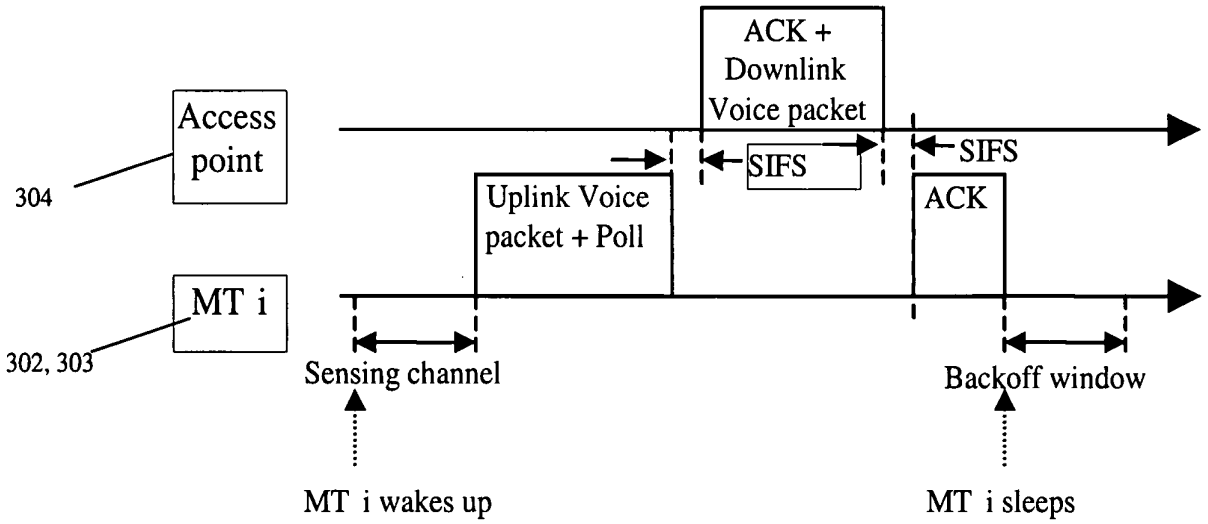
ACK +
Downlink
Voice packet
Access
point
304
SIFS
SIFS
Uplink Voice
packet + Poll
ACK
MT i
302, 303
Sensing channel
Backoff window
MT i wakes up
MT i sleeps

FIG. 4

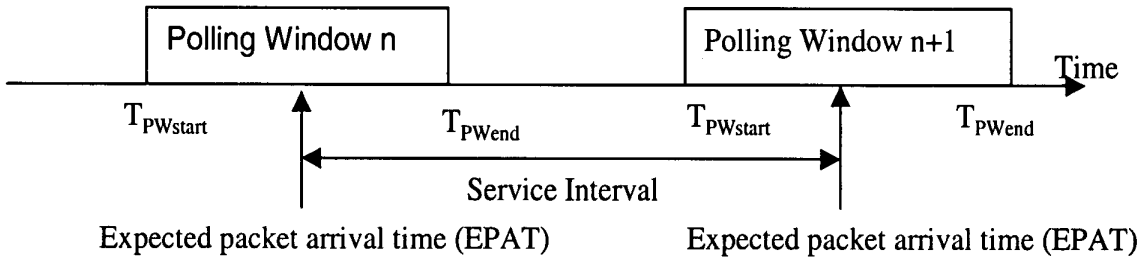
Polling Window n
Polling Window n+1
Time
$T_{PWstart}$
T_{PWend}
$T_{PWstart}$
T_{PWend}
Service Interval
Expected packet arrival time (EPAT)
Expected packet arrival time (EPAT)

Fig 5

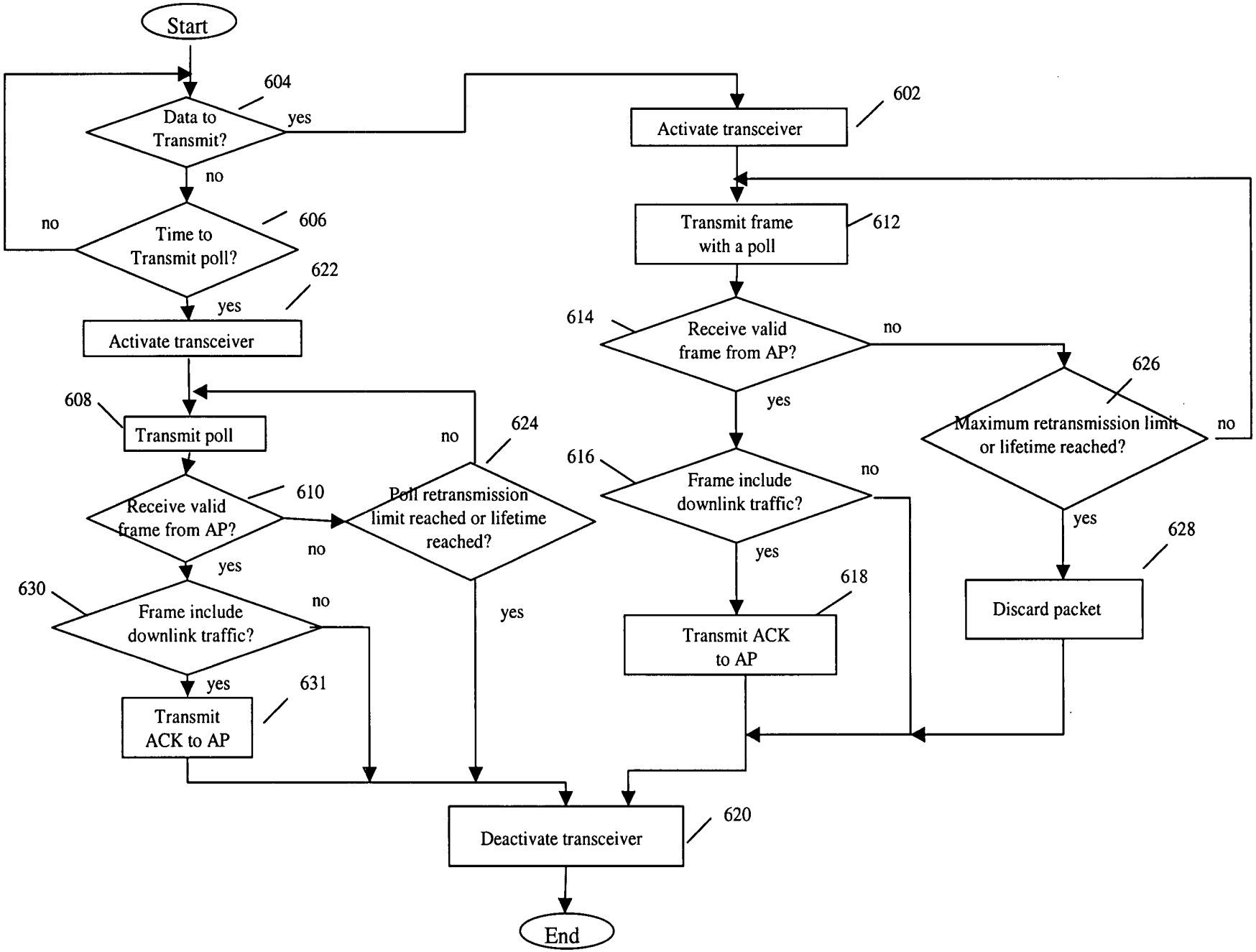
Start
604
Data to Transmit?
yes
no
602
Activate transceiver
606
Time to Transmit poll?
no
612
Transmit frame with a poll
622
yes
Activate transceiver
614
Receive valid frame from AP?
no
626
608
Transmit poll
624
no
Maximum retransmission limit or lifetime reached?
no
616
Frame include downlink traffic?
no
610
Receive valid frame from AP?
Poll retransmission limit reached or lifetime reached?
no
yes
yes
628
630
Frame include downlink traffic?
no
618
yes
Discard packet
yes
631
Transmit ACK to AP
Transmit ACK to AP
620
Deactivate transceiver
End

FIG. 6

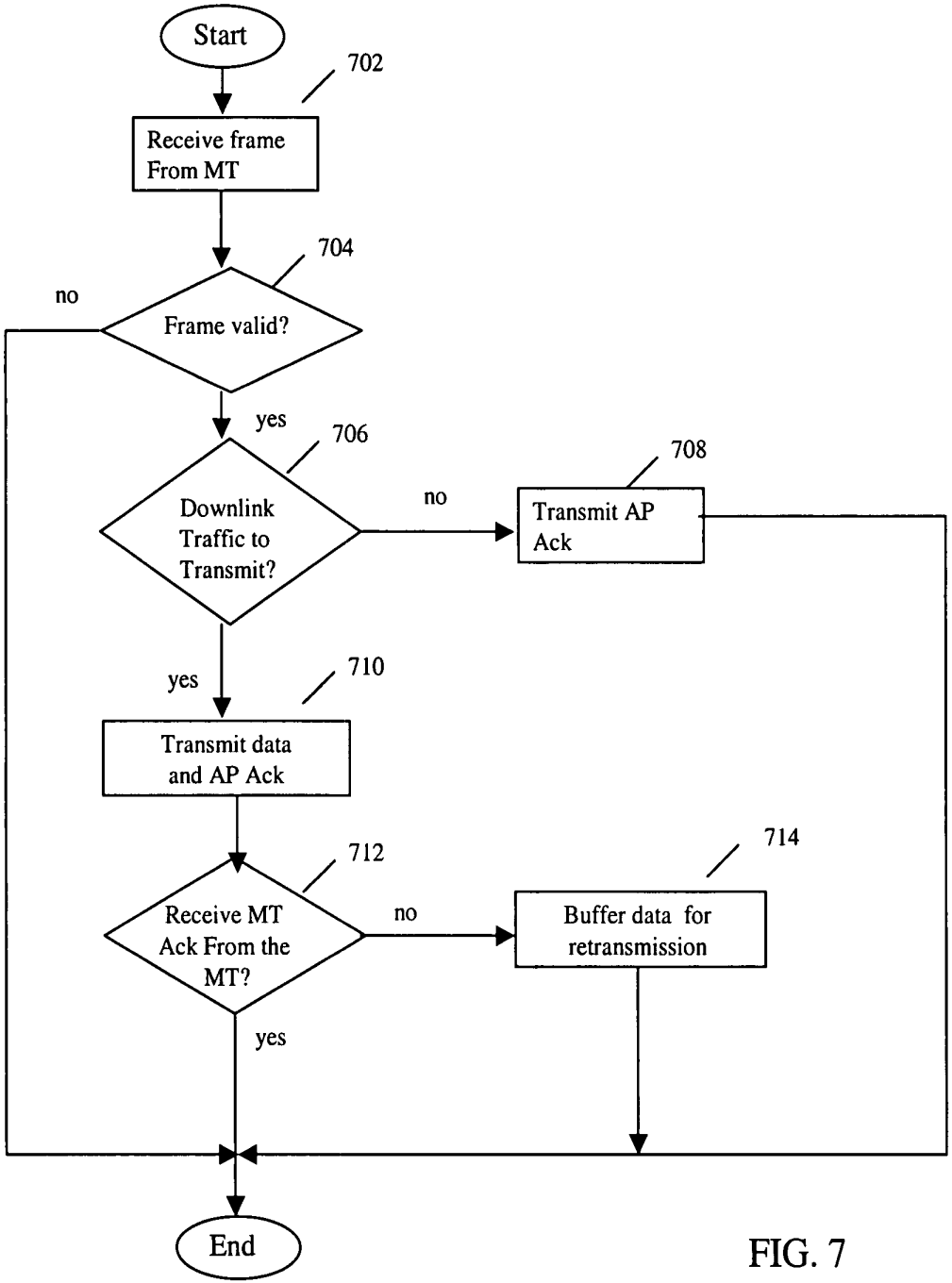
Start
702
Receive frame From MT
704
no
Frame valid?
yes
706
Downlink Traffic to Transmit?
no
708
Transmit AP Ack
yes
710
Transmit data and AP Ack
712
Receive MT Ack From the MT?
no
714
Buffer data for retransmission
yes
End

FIG. 7

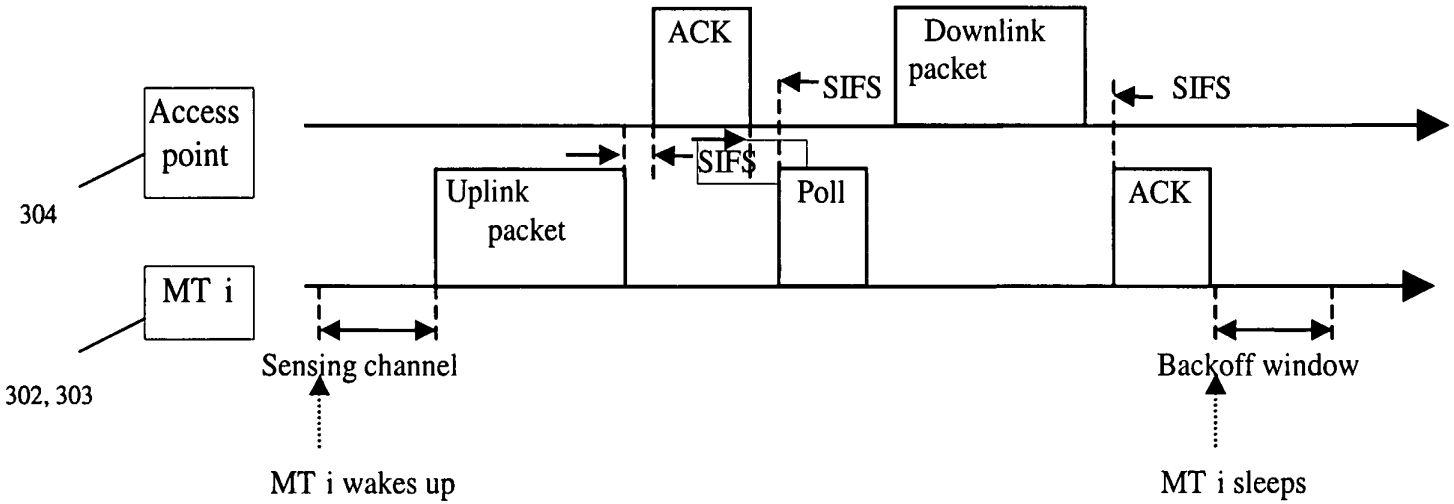
ACK
Downlink packet
SIFS
SIFS
Access point
SIFS
Uplink packet
Poll
ACK
304
MT i
Sensing channel
Backoff window
302, 303
MT i wakes up
MT i sleeps

FIG. 8

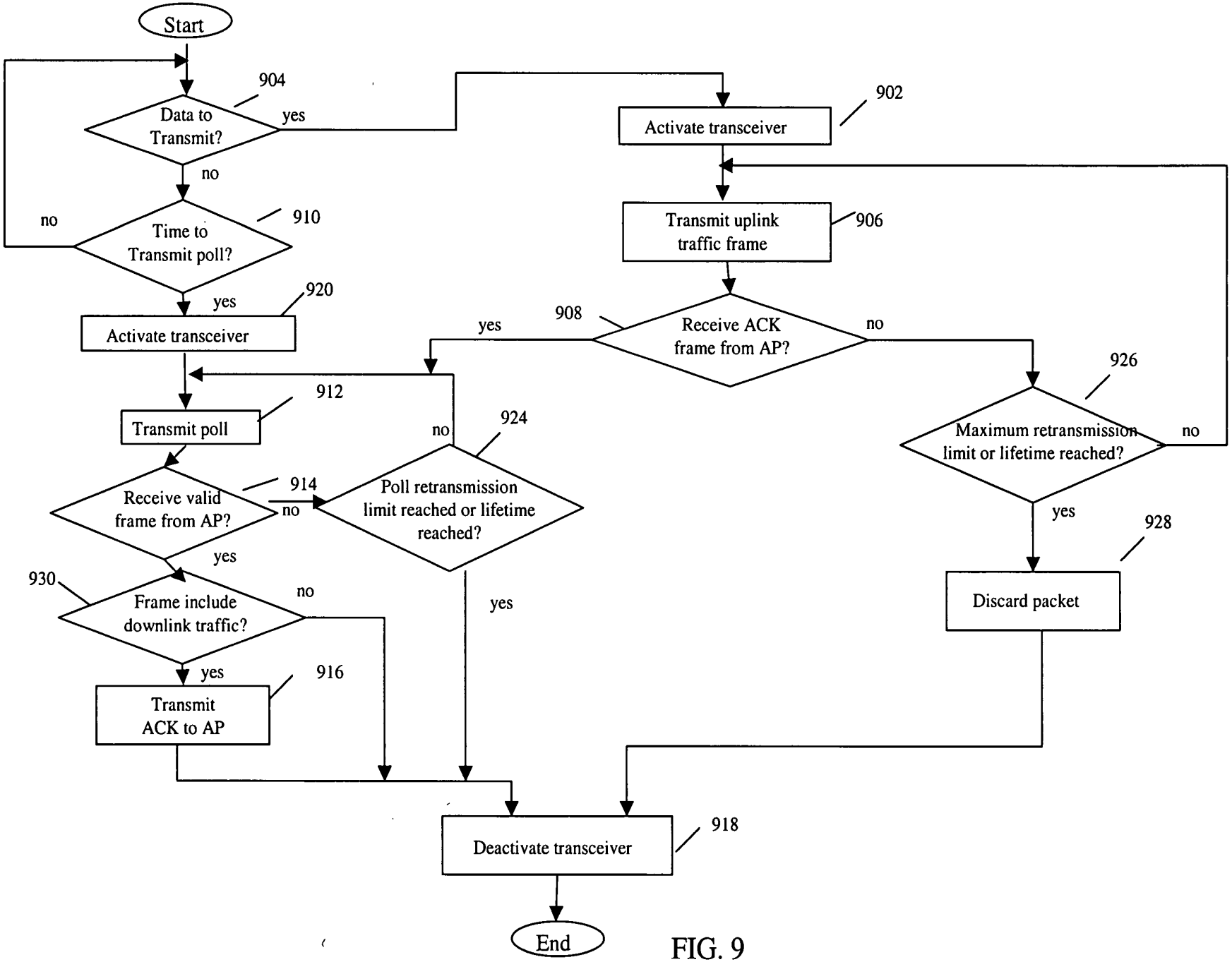
Start
Data to Transmit?
904
yes
no
Time to Transmit poll?
910
no
yes
Activate transceiver
920
Transmit poll
912
Receive valid frame from AP?
914
no
yes
Frame include downlink traffic?
930
no
yes
Transmit ACK to AP
916
Poll retransmission limit reached or lifetime reached?
924
no
yes
Activate transceiver
902
Transmit uplink traffic frame
906
Receive ACK frame from AP?
908
yes
no
Maximum retransmission limit or lifetime reached?
926
no
yes
Discard packet
928
Deactivate transceiver
918
End

FIG. 9

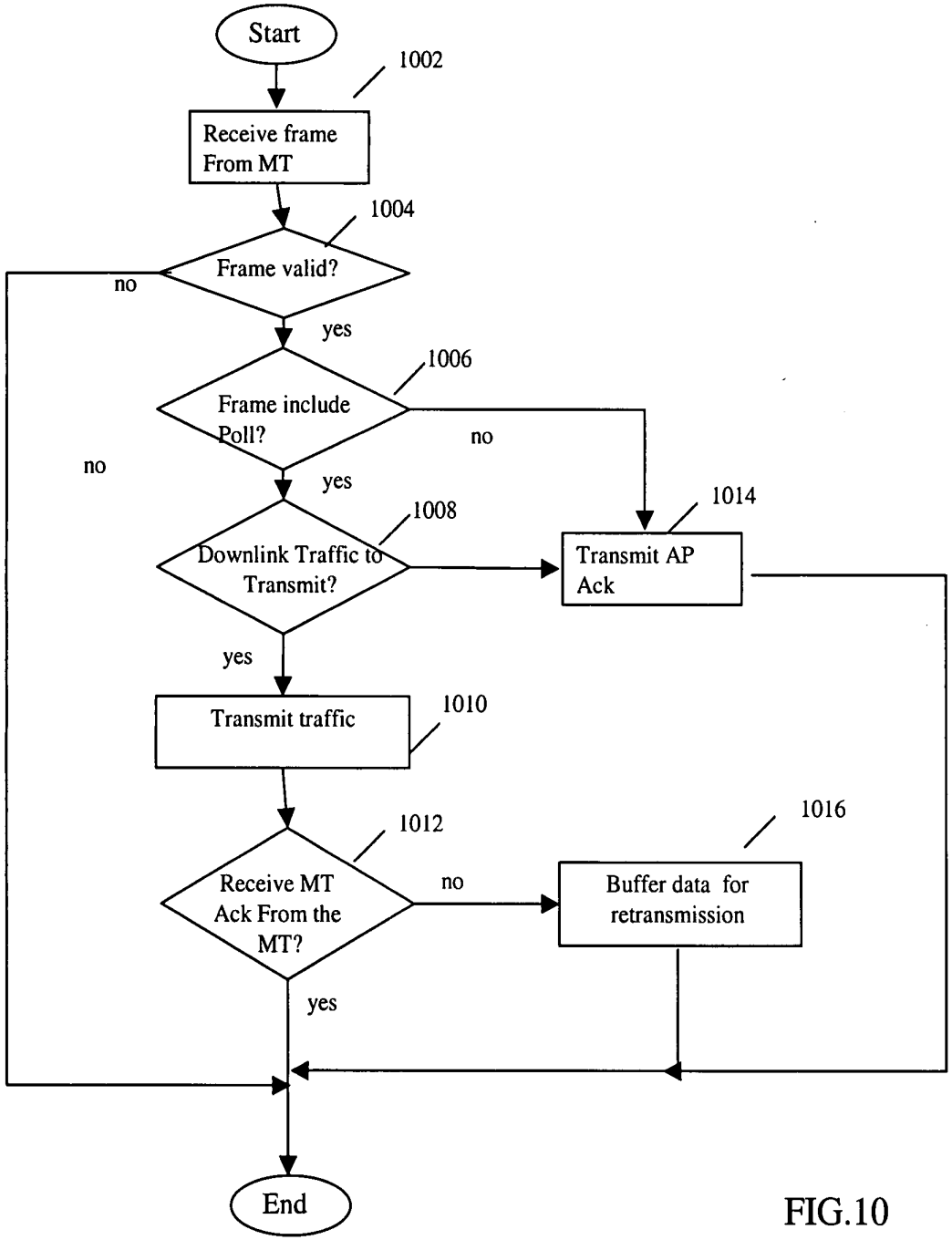
Start
1002
Receive frame From MT
1004
Frame valid?
no
yes
1006
Frame include Poll?
no
yes
no
1008
Downlink Traffic to Transmit?
1014
Transmit AP Ack
yes
Transmit traffic
1010
1012
Receive MT Ack From the MT?
no
1016
Buffer data for retransmission
yes
End

FIG.10